

## Type III CIRM Stem Cell Research Training Program

### Grant Award Details

Type III CIRM Stem Cell Research Training Program

**Grant Type:** Research Training II

**Grant Number:** TG2-01162

**Project Objective:** The objective of the program is to provide training to postdoctoral trainees in stem cell research through coursework and mentored laboratory experience.

**Investigator:**

**Name:** Alessandra Sacco

**Institution:** Sanford-Burnham Medical Research Institute

**Type:** PI

**Award Value:** \$2,781,376

**Status:** Closed

### Progress Reports

**Reporting Period:** Year 3

[View Report](#)

**Reporting Period:** Year 4

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**Reporting Period:** Year 5

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**Reporting Period:** Year 6

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Reporting Period: Year 7/NCE

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## Grant Application Details

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**Application Title:** Type III CIRM Stem Cell Research Training Program

**Public Abstract:** This application is to renew our CIRM type III program to train post-doctoral scientists. Our faculty direct a large stem cell research and teaching enterprise that comprises over 100 biologists, chemists, engineers and clinicians with extensive expertise in stem cell biology and in allied disciplines dedicated to stem cell-based therapies for cardiovascular, neurodegenerative, hematopoietic and metabolic disorders. Our current CIRM program curriculum included intensive lecture courses on Stem Cell Biology, and Ethics, Intellectual Property and Regulatory Affairs and a hands-on, intensive laboratory course required of all trainees. The program also funded instructors to provide specialized workshops in hESC techniques and our trainees attended local and statewide trainee meetings to augment interchange and education. In addition, the training program provided a research stipend to defray the costs of the trainees' research and, in some cases, the presence of CIRM trainees established hESC biology in mentors' laboratories. The proposed program will feature the following: • Train a steady state of 6 postdoctoral fellows/year, with PhD and/or MD degrees, admitted on a competitive basis. • Mandatory lecture and laboratory courses on Stem Cell Biology as well as Ethics, Intellectual Property and Regulatory Affairs. • New elective courses in translational fields of drug discovery, animal physiology and degenerative disease models. • Student/faculty journal clubs on stem cell biology. • Institutional commitment for the training program will continue by providing support for faculty mentors, instrumentation and laboratory space dedicated to hESC and hiPSC biology, in particular in the areas of hESC/hiPSC engineering, automated small molecule, siRNA and microRNA screening, and proteomics. • Research training emphasis will be on stem cell engineering, directed differentiation and drug discovery. With this renewal, there will be an increased emphasis on providing training in translational research involving pharmacology, physiology and animal disease models used to study stem cell-based regeneration. The program is designed to offer comprehensive training in stem cell research and allied disciplines required to translate basic discoveries to clinic, biotechnology and pharmaceutical settings. Our Faculty are dedicated to excellence in research and are committed to providing outstanding postdoctoral training.

**Statement of Benefit to California:** Benefits will accrue to California through: 1. California patients will benefit from improved therapies. The CIRM training program will produce highly trained stem cell scientists that will expand the number of talented researchers working towards therapies for degenerative and other disorders. 2. Technology transfer to California institutions. Our institution, as well as [REDACTED], has seen and implemented a steady increase in technology transfer in the past decade. The training provided to our best postdoctoral fellows will increase the quality and also the quantity of stem cell research at our institution. The translational potential of stem cell research and the motivation of our scientists and administrators to translate the basic discoveries to biotech and pharmaceutical settings is likely to result in licensing of further technology to the corporate sector. This will have an impact on boosting the competitiveness of our state's technology sector with the accompanying potential for creation of new jobs. 3. Enhanced ability of California institutions to recruit stem cell scientists. Already, we have seen an increase in the number of recruits, at all levels, as a result of CIRM funding. Training grant funding is likely to contribute to overall recruitment by the prospect of placing highly trained scientists in laboratories. Moreover, because of the translational nature of the research and resulting technology transfer to industry partners, the increased number of highly trained graduates should have a similar impact on our biotechnology and/or pharmaceutical companies.

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